Simultaneous Endovascular Treatment of Bilateral Symptomatic External Carotid Artery Stenosis Using a Trans-cervical Approach

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Disclosure

- Speaker name:
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☑️ I do not have any potential conflict of interest
Introduction

• We report 18 months follow up of our first Transcervical simultaneous Bilateral External Carotid Artery (ECA) stenting for bilateral symptomatic ECA stenosis

• This case illustrates the durability of endovascular intervention in symptomatic ECA disease and the benefits of using cervical approach as a safe alternative to femoral.
CASE PRESENTATION
Background

72 year old male

- Hypertension
- Paroxysmal Atrial fibrillation
- Ischemic heart disease
- Hyperlipidemia
- Ex-smoker with a 20 pack-year history
Presentation

Presented with

- Daily Amaurosis Fugax
- Affecting both eyes
- L>R
- 10 seconds-5 minutes
- 7 weeks
Examination & Work up

Examination

- Neurological examination: unremarkable
- Ophthalmological examination: Blepharitis

Carotid Duplex

- Bilateral ICA occlusion

MRI brain

- No acute infarct
Medical Management

Stroke Team

- Conservative Management was advised by stroke team due to presumed Hypo-perfusion syndrome

However symptoms became more frequent, occurring 4-5 times daily
What is next ?!!

- Vascular Opinion

CTA Carotid
- Bilateral ICA occlusion
- Normal appearance of intracerebral circulation
- High grade stenosis in the origin of both ECAs

- Patient planned for Bilateral ECA Stenting
Procedure

- GA
- Bilateral trans-cervical approach
- Cerebral protection with reversal of flow using a VacLok syringe (MeritMedical)
Procedure

- Primary stenting of ECA/CCA was done using 10-8mm x 40mm XACT stent (Abbott)
- Angioplasty using 5 mm balloon(Cordis)
Procedure

Completion angiogram

- Stents in place
- Restoration of the flow
Recovery

- Uneventful Procedure
- Completely Asymptomatic
- Home 1\textsuperscript{st} day post-operative
- Anti-platelets
Follow Up

18 months later

- Completely asymptomatic
- No evidence of restenosis in both stents on carotid duplex
Discussion

• Established anastomotic channels between ECA and intra-cerebral circulation allow blood flow from intracranial to extra-cranial vessels.

• However when ICA is occluded the flow reverses and ECA will supply the brain, with up 30% of cerebral blood flow coming from extra-cranial vessels.
Discussion

- Transient Ischemic attacks in case of bilateral ICA occlusion may result from emboli originating from either the internal carotid stump, common carotid artery, or the external carotid artery.
- Hence treatment of symptomatic patients with external carotid artery stenosis often provides improvement or resolution of these symptoms.
Discussion

• Over the years open ECA endarterectomy was considered as a gold standard for ECA stenosis.
• Endovascular solution proved to be an effective and safe alternative in patients with
  • Bilateral disease
  • Significant comorbidities
  • Patients with difficult or risky open repair due to a hostile neck or high carotid bifurcation
Conclusion

- ECA stenting is an effective alternative to open repair for patients with bilateral symptomatic ECA disease.

- Using a carotid approach facilitates cerebral protection with reversal of flow, in addition to a reduced risk of distal embolization with the trans-cervical approach vs. femoral.
THANK YOU
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